

WHAT IS CLAIMED IS:

1. An ink jet recording apparatus for performing a recording operation by discharging ink from a discharge port of an ink jet head, comprising:
5 driving means for discharging the ink from said discharge port in response to a recording signal; and
meniscus vibrating means for vibrating a meniscus in the vicinity of said discharge port, with repetition frequency not belonging to an audible
10 frequency range or belonging to a low frequency range, in a case where the ink is not discharged from said discharge port.
2. An ink jet recording apparatus according to
15 claim 1, wherein the repetition frequency not belonging to the audible frequency range is a frequency higher than 20 kHz.
3. An ink jet recording apparatus according to
20 claim 1, wherein the repetition frequency not belonging to the audible frequency range is a frequency lower than 20 Hz.
4. An ink jet recording apparatus according to
25 claim 1, wherein the repetition frequency belonging to the low frequency range is a frequency of 20 to 100 Hz.

5. An ink jet recording apparatus according to claim 1, wherein the vibration of the meniscus is given between the recording operations for discharging the ink.

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6. An ink jet recording apparatus according to claim 1, wherein said means for generating the vibration are an electrostriction element.

10 7. An ink jet recording apparatus according to claim 1, wherein said means for generating the vibration are a heating element for generating a bubble in the ink.

15 8. An ink jet recording apparatus according to claim 1, wherein said means for generating the vibration are means for causing deformation of a pressure chamber by using an electrostatic force.

20 9. An ink jet recording apparatus according to claim 1, wherein said means for generating the vibration are a small vibration adding device.

10. An ink jet recording apparatus for
25 performing a recording operation by discharging ink from a discharge port of an ink jet head, comprising:
driving means for discharging the ink from said

discharge port in response to a recording signal; and
meniscus vibrating means for vibrating a
meniscus in the vicinity of said discharge port which
does not discharge the ink during a recording
5 operation, with a period shorter than a discharging
period for the recording operation.

11. An ink jet recording apparatus according to
claim 10, wherein said means for generating the
10 vibration are an electrostriction element.

12. An ink jet recording apparatus according to
claim 10, wherein said means for generating the
vibration are a heating element for generating a
15 bubble in the ink.

13. An ink jet recording apparatus according to
claim 10, wherein said means for generating the
vibration are means for causing deformation of a
20 pressure chamber by using an electrostatic force.

14. An ink jet recording apparatus according to
claim 10, wherein said means for generating the
vibration are a small vibration adding device.
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15. An ink jet recording method for performing
a recording operation by discharging ink from a

discharge port of an ink jet head, comprising:

a step for discharging the ink from said discharge port in response to a recording signal; and

a meniscus vibrating step for vibrating a
5 meniscus in the vicinity of said discharge port, with repetition frequency not belonging to an audible frequency range or belonging to a low frequency range, in a case where the ink is not discharged from said discharge port.

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16. An ink jet recording method for performing a recording operation by discharging ink from a discharge port of an ink jet head, comprising:

a step for discharging the ink from said
15 discharge port in response to a recording signal; and

a meniscus vibrating step for vibrating a meniscus in the vicinity of said discharge port which does not discharge the ink during a recording operation, with a period shorter than a discharging
20 period for the recording operation.